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WORKING PAPER

Tracking and Tracing Future, Present and Past Product and Money Flows

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Abstract

This paper presents a conceptual model that enables both the registration of economic data (e.g. transactions between business partners) and product and money flow traceability. The conceptual model is founded in the REA ontology, which has its origin in accounting and currently provides the conceptual foundations for an ISO open-edi transaction standard. The usability of the developed conceptual model is illustrated with an example database that demonstrates the scenarios covered by the conceptual model. These scenarios include tracking and tracing the constitution of products (e.g. the origin of their parts) and the events that contributed to the construction of a product (e.g. logistic and production processes, transactions between trading partners). Other scenarios address the pairing of product and money flows that is typical for business transactions and the identification of future product and money flows. The latter feature is especially useful for supply chain management. The traceability feature is useful for supply chain authentication and quality assurance (e.g. for food safety) and the business transactions transaction registration feature can be used for monitoring the legal and illegal money flows associated with (future) product flows (e.g. for eliminating terrorism funding with counterfeit). Although many models exist for traceability, business transactions and planning, no model existed that integrated all these features and enabled leveraging traceability to enable the monitoring of business transaction and process sequences.